Claims

1. A method for data transmission where a predetermined number (N) of idle frames are sent when data transmission is completed, the method comprising the steps of:

        transmitting a plurality of data frames to a remote unit;

        determining that a final data frame has been transmitted to the remote unit;

        transmitting a first plurality (K) of idle frames in response to the determination that the final data frame has been transmitted to the remote unit;

        receiving a negative acknowledgment (NAK) from the remote unit indicating that a data frame was improperly received;

        retransmitting the improperly-received data frame; and

        transmitting N-K idle frames to the remote unit after retransmitting the data frame.

2. The method of claim 1 wherein the step of transmitting the first plurality of idle frames comprises the step of transmitting the first plurality of idle frames, each having a sequence number incremented from the final data frame transmitted.

3. The method of claim 1 wherein the step of receiving the negative acknowledgment comprises the step of receiving the negative acknowledgment, wherein the negative acknowledgment comprises a sequence number for a frame not received by the remote unit.

4. The method of claim 1 further comprising the steps of:

        determining if the NAK is requesting retransmission of the final data frame; and

        sending no more idle frames if the NAK is requesting retransmission of the final data frame, otherwise sending N-K idle frames to the remote unit after retransmitting the data frame.

5. A method for data transmission where a predetermined number of idle frames are sent when data transmission is completed, the method comprising the steps of:

    transmitting a plurality of data frames to a remote unit;

    determining that a final data frame has been transmitted to the remote unit;

    transmitting a first plurality of idle frames in response to the determination that the final data frame has been transmitted to the remote unit;

    receiving a negative acknowledgment (NAK) from the remote unit indicating that the final data frame was improperly received; and

    ceasing transmission of idle frames in response to the determination that the final data frame was improperly received.

6. The method of claim 5 wherein the step of transmitting the first plurality of idle frames comprises the step of transmitting the first plurality of idle frames, each having a sequence number incremented from the final data frame sent.

7. The method of claim 5 wherein the step of receiving the NAK comprises the step of receiving the NAK, wherein the NAK comprises a sequence number for a frame not received by the remote unit.

8. A method for data transmission, the method comprising the steps of:

    receiving a plurality of data frames;

    determining that a data frame was improperly received;

    sending a negative acknowledgment (NAK) in response to the determination that the data frame was improperly received;

    receiving an idle frame; and

    sending an acknowledgment (ACK) in response to the received idle frame.

9.   An apparatus for transmitting data within a communication system where a predetermined number (N) of idle frames are sent when data transmission is completed, the apparatus comprising:

5   transmitting circuitry for outputting a plurality of data frames and idle frames to a remote unit;

            receiving circuitry having a NAK'd data frame as an input; and

            logic circuitry, determining that a final data frame has been transmitted to the remote unit and instructing the transmitting circuitry to transmit a first

10   plurality (K) of idle frames in response to the determination that the final data frame has been transmitted to the remote unit and to transmit N-K idle frames to the remote unit after retransmitting the NAK'd data frame.

10. The apparatus of claim 9 wherein the idle frames have a sequence number

15   incremented from the final data frame transmitted.

11. The apparatus of claim 9 wherein the NAK comprises a sequence number for a frame not received by the remote unit.

20   12.   The apparatus of claim 9 wherein the logic unit further instructs the transmitting circuitry to send no more idle frames if the NAK's data frame is requesting retransmission of a final data frame.

13.   An apparatus for transmitting data within a communication system, the apparatus comprising:

    transmitting circuitry for outputting a plurality of data frames and idle
5   frames to a remote unit;

    receiving circuitry having a NAK'd data frame as an input; and

    logic circuitry, determining that a final data frame has been transmitted to the remote unit and instructing the transmitting circuitry to send no more idle frames if the NAK'd data frame is requesting retransmission of the final data
10   frame.

14.   The apparatus of claim 13 wherein the idle frames have a sequence number incremented from the final data frame transmitted.

15   15.   The apparatus of claim 13 wherein the NAK comprises a sequence number for a frame not received by the remote unit.

16. A remote unit comprising:

    receiving circuitry for receiving data frames and idle frames; and

    an ACK/NAK generator coupled to the receiving circuitry for generating a
NAK in response to poorly received frames and additionally for generating an
ACK in response to idle frames received.

17. The apparatus of claim 16 wherein the idle frames have a sequence number
incremented from the final data frame transmitted.

18. The apparatus of claim 16 wherein the NAK comprises a sequence number
for a frame not received by the remote unit.